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**IN THE CLAIMS**

1-7. (Canceled)

8. (Currently Amended) The imaging system of ~~claim 7~~ claim 28 wherein the summer is digital.

9. (Currently Amended) The imaging system of ~~claim 7~~ claim 28 wherein the variable-gain amplifier is a digital amplifier.

10-12. (Canceled)

13. (Previously Presented) An imaging system comprising:

- two or more group pixels comprising two or more photodetector circuits for providing two or more corresponding pixel image signals, with each photodetector circuit having a surface area less than 50 square microns and comprising:
  - a source-follower transistor have a gate, source, and drain;
  - a ground node; and
  - a photodiode coupled between the gate of the source-follower transistor and the ground node;
- a summer responsive to two or more of the corresponding pixel image signals for outputting an aggregate image signal;
- a variable-gain amplifier responsive to the aggregate image signal for outputting an amplified aggregate image signal based on an adjustable amplifier gain;
- an automatic gain controller for adjusting the adjustable amplifier gain based on the aggregate image signal;
- an address line; and
- a signal line, with each photodetector circuit of one of the group pixels coupled to the address line and the signal line.

14. (Previously Presented) The imaging system of claim 13 wherein the summer comprises a digital summer.
15. (Original) The imaging system of claim 13 wherein the variable-gain amplifier is a digital amplifier.
16. (Canceled)
17. (Currently Amended) The imaging system of ~~claim 16~~ claim 34 wherein the summer comprises a digital summer.
18. (Currently Amended) The imaging system of ~~claim 16~~ claim 34 wherein the variable-gain amplifier is a digital amplifier.
- 19-27. (Canceled)
28. (Currently Amended) ~~The imaging system of claim 7~~ An imaging system comprising:  
a first group pixel comprising two or more photodetectors for providing two or more  
corresponding pixel image signals;  
a second group pixel comprising two or more photodetectors for providing two or more  
corresponding pixel image signals;  
a summer responsive to two or more of the corresponding pixel image signals for  
outputting an aggregate image signal;  
a variable-gain amplifier responsive to the aggregate image signal for outputting an  
amplified aggregate image signal based on an adjustable amplifier gain;  
an automatic gain controller for adjusting the adjustable amplifier gain based on the  
aggregate image signal;  
an address line; and

a signal line, with each photodetector of the first group pixel coupled to the address line and the signal line, wherein each photodetector in the first group pixel is tuned to detect substantially the same color light.

29-31. (Canceled)

32. (Previously Presented) The imaging system of claim 13, wherein each photodetector in the first group pixel is tuned to detect substantially the same color light.

33. (Canceled)

34. (Currently Amended) ~~The imaging system of claim 16~~ An imaging system comprising:  
two or more group pixels each comprising photodetection means for providing two or  
more corresponding pixel image signals;  
a summer responsive to two or more of the corresponding pixel image signals for  
outputting an aggregate image signal;  
a variable-gain amplifier responsive to the aggregate image signal for outputting an  
amplified aggregate image signal based on an adjustable amplifier gain;  
an automatic gain controller for adjusting the adjustable amplifier gain based on the  
amplified aggregate image signal;  
an address line; and  
a signal line, with each photodetection means of at least one of the group pixels coupled  
to the address line and the signal line and, wherein each photodetector in the first  
group pixel is tuned to detect substantially the same color light.

35-37. (Canceled)

38. (Previously Presented) ~~The imaging system of claim 7~~ An imaging system comprising:  
a first group pixel comprising two or more photodetectors for providing two or more  
corresponding pixel image signals;

a second group pixel comprising two or more photodetectors for providing two or more corresponding pixel image signals;

a summer responsive to two or more of the corresponding pixel image signals for outputting an aggregate image signal;

a variable-gain amplifier responsive to the aggregate image signal for outputting an amplified aggregate image signal based on an adjustable amplifier gain;

an automatic gain controller for adjusting the adjustable amplifier gain based on the aggregate image signal;

an address line; and

a signal line, with each photodetector of the first group pixel coupled to the address line and the signal line,

wherein the summer is responsive to two or more of the corresponding pixel image signals from the first group pixel, and wherein the system further comprises:

another summer responsive to two or more of the corresponding pixel image signals from the second group pixel for outputting a second aggregate image signal;

another variable-gain amplifier responsive to the second aggregate image signal from the other summer for outputting another amplified aggregate image signal based on another adjustable amplifier gain; and

another automatic gain controller for adjusting the other adjustable amplifier gain based on the second amplified aggregate image signal.

39. (New) The imaging system of claim 38 wherein the summer comprises a digital summer.

40. (New) The imaging system of claim 38 wherein the variable-gain amplifier is a digital amplifier.

41. (New) The imaging system of claim 13, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a number of faulty photodetectors in the one of the group pixels.

42. (New) The imaging system of claim 13, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a ratio of a total number of photodetectors in one of the group pixels to a total number of faulty photodetectors in the one of the group pixels.

43. (New) The imaging system of claim 28, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a number of photodetectors in one of the group pixels and a number of faulty photodetectors in the one of the group pixels.

44. (New) The imaging system of claim 28, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a ratio of a total number of photodetectors in one of the group pixels to a total number of faulty photodetectors in the one of the group pixels.

45. (New) The imaging system of claim 34, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a number of photodetectors in one of the group pixels and a number of faulty photodetectors in the one of the group pixels.

46. (New) The imaging system of claim 34, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a ratio of a total number of photodetectors in one of the group pixels to a total number of faulty photodetectors in the one of the group pixels.

47. (New) The imaging system of claim 38, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a number of photodetectors in one of the group pixels and a number of faulty photodetectors in the one of the group pixels.

48. (New) The imaging system of claim 38, wherein the automatic gain controller adjusts the adjustable amplifier gain based on a ratio of a total number of photodetectors in one of the group pixels to a total number of faulty photodetectors in the one of the group pixels.